

23. Age-Phases of the Rorqual.

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Some months ago I received a communication to the effect that one of the captains at the Norwegian whaling-stations on the Mayo coast was surprised to find that the true Rorquals of the species commonly known to English naturalists as *Balenoptera musculus* found in the Irish seas differed from those he was accustomed to take in Norwegian waters, not only in colour, but likewise in their food. This species is stated in text-books to feed largely on fish, especially herrings and pilchards; and those taken in Norwegian waters by the captain above mentioned appear to have been exclusively fish-eaters. On the other hand, those taken on the Mayo coast in summer were feeding exclusively on pelagic crustaceans. As to the nature of the colour-differences between Norwegian and Irish examples, I was unable, in spite of special inquiries, to obtain definite information. I find, however, that Professor R. Collett, in a paper on Rudolphi's Rorqual, published in the Society's 'Proceedings' for 1886, states (p. 265) that in the True or Common Rorqual the whole of the under surface of the flukes is white; this statement being doubtless based on Norwegian specimens. On the other hand, in the life-size model in the Natural History branch of the British Museum of a specimen taken in the Moray Firth in the spring of 1880 the under side of the flukes is coloured black. This colouring is doubtless based on notes or a sketch taken when the specimen was in the flesh; and, for what this is worth, its correctness is confirmed by the fact that in the flukes itself, which is preserved in the Museum, no difference in the colour of the upper and lower surfaces is noticeable. In this connection it is important to mention that specimens of this Rorqual have been taken off Cornwall—in one instance in September—while feeding on herrings and pilchards*.

This was the extent of my information on the subject till a few days ago, when Dr. S. F. Harmer put into my hands some notes on Norwegian Rorquals he had recently received from a correspondent. From these notes, which are based on information furnished by an experienced Norwegian whale-gunner, it appears that the whalers of Finmarken recognise three varieties, or phases, of True Rorqual—namely, a darker, a lighter, and a yellowish. The dark phase is stated to be always met with in company with shoals of herrings, upon which it doubtless feeds. These Rorquals usually arrive off the Faroes in the middle of June, coming from the south-west and proceeding in a north-easterly direction; the immigration lasting till about the middle of July. Early in August the whales commence their return journey southwards, when they keep principally to the south side of the islands. By the end of the same month nearly all have

* See Gray, Cat. Seals and Whales Brit. Mus. p. 149 (1866).

left the Faroes, the few that remain being restless and evidently on the move.

The most important item in this statement is, however, that these Rorquals arrive off Finmarken in two divisions, the first of which is composed of members of the dark phase—which I presume to be represented by the above-mentioned dark-tailed specimen. These dark whales arrive early in March and advance in an easterly direction, but do not, as a rule, go beyond the Varanger Fiord, whence they return in the middle of April along the coast; the migration being completed by the end of the latter month.

The second division consists chiefly of the two lighter-coloured phases, which I take to correspond with the light-tailed form described by Prof. Collett. Nothing is said as to the nature of their food; but it seems highly probable that it is this light-coloured phase which is taken off Mayo feeding on shrimps, &c. The members of this second division reach the Faroes in the first half of June, and are then met with about fifteen miles off Sörö, where they stay till about the beginning of July, when they move eastwards as far as Baadsfiord, whence they finally disappear in a north-easterly direction.

Schools composed chiefly of the light-coloured and yellow phases reach Spitzbergen in the middle of June and move on towards the north-east; returning along the coasts of Spitzbergen from about the end of July, and disappearing by the middle of August.

The existence of one dark and two light phases of this Rorqual being thus clearly established, and it being also known that the dark phase is the one associated with herring-shoals, it remains to account for these differences. One explanation would be that we have to do with distinct races; but although such an explanation might be entertained if we had to do with two phases only, it is difficult to accept when there are three. The alternative is to regard the three colour-phases as representing differences in age. Cetaceans of many kinds are known to show considerable variation in colour according to age; a notable instance being afforded by coloured casts of two Norwegian examples of Sowerby's Beaked Whale (*Mesoplodon bidens*) exhibited in the whale-room at the British Museum. In the smaller of these the belly is pinkish yellow, whereas in the larger example it is as black as the back. So different, indeed, are the two specimens, that I at one time considered they might be specifically distinct. I believe, however, that Norwegian naturalists regard the black-bellied phase as the fully adult condition of the white-bellied form; and if this be correct, there is every reason for regarding the colour-phases of the Rorqual as being likewise dependant upon age. Assuming the colour-changes of the Beaked Whale to be paralleled in the Rorqual, the dark phase of the latter should be the oldest; and that this is the case is indicated by the skeleton of the aforesaid specimen in the British Museum, which is that of a very old individual, as is shown by the complete welding of the epiphyses to the centra of the vertebræ. It may be also confirmed by the black-tailed Rorquals being those which feed on herrings and pilchards.